

SPECIFICATION AMENDMENT

Please amend the paragraph beginning on page 2, line 26 as follows:

“In accordance with an exemplary embodiment of the present invention [[as set forth in claim 1]], a CSCT apparatus for examination of an object of interest is provided, comprising a source of radiation and a radiation detector ray. The source of radiation is adapted to generate a fan-shaped radiation beam during operation. According to an aspect of this exemplary embodiment of the present invention, the radiation detector ray is asymmetrically arranged with respect to the fan-shaped radiation beam.”

Please amend the paragraph beginning on page 3, line 14 as follows:

“According to another exemplary embodiment of the present invention [[as set forth in claim 2]], the radiation detector array is arranged such that the slice plane intersects the radiation detector array at a side thereof. In particular, [[as set forth in the exemplary embodiment of claim 3,]] the radiation detector is arranged such that the slice plane intersects the radiation detector array at a portion of the radiation detector array, which is offset from the geometrical center of the radiation detector array in the scanning direction.”

Please amend the paragraph beginning on page 3, line 29 as follows:

“According to another exemplary embodiment of the present invention [[as set forth in claim 4]], the radiation detector ray comprises a plurality of detector lines. The fan-shaped radiation beam has a width of at least two detector lines of the plurality of detector lines, when it impinges onto the radiation detector ray after transmission through the object of interest. Due to this, a few lines of the plurality of lines measure the primary radiation transmitted through the object of interest and other lines of the plurality of detector lines provided on the radiation detector array measure the scattered radiation.”

Please amend the paragraph beginning on page 4, line 6 as follows:

“According to another exemplary embodiment of the present invention [[as set forth in claim 5]], a first part of the radiation detector array is used for a cone beam data acquisition and a second part of the radiation detector is used for scatter radiation measurements. Advantageously, a combination of both measurements may allow for an improved image quality. Furthermore, this may allow to reduce a scanning time required to scan the object of interest.”

Please delete the paragraph beginning on page 4, line 12 as follows:

~~“Claims 6 to 9 provide for further exemplary embodiments of the present invention.”~~

Please amend the paragraph beginning on page 4, line 14 as follows:

“According to another exemplary embodiment of the present invention [[as set forth in claim 10]], a method of examining an object of interest is provided, according to which a source of radiation is energized such that it generates a fan-shaped radiation beam. Then, a measurement of a primary radiation attenuated by the object of interest and a scatter radiation scattered by the object of interest is performed by means of a radiation detector, which is asymmetrically arranged with respect to the fan-shaped radiation beam.”

Please delete the paragraph beginning on page 4, line 21 as follows:

~~“Claims 11 and 12 provide for further exemplary embodiments of the method according to the present invention.”~~

Please amend the paragraph beginning on page 4, line 23 as follows:

“According to another exemplary embodiment of the present invention [[as set forth in claim 13]], a computer program for operating a CSCT apparatus is provided, wherein, when the computer program is executed on a processor of the CSCT apparatus, the computer program causes the CSCT to perform steps of the method according to the present invention, such as, for example, [[set forth in claim 10]] the method described in the previous paragraph. The computer

program according to the present invention is preferably loaded into a working memory of a processor of the CSCT apparatus. The computer program may be stored on a computer readable medium, such as a CD-ROM. The computer program may also be presented over a network such as the WorldWideWeb, and can be downloaded into the working memory of a data processor from such a network.”

Please amend the paragraph beginning on page 6, line 26 as follows:

“The fan-beam 11 is directed such that it penetrates the item of baggage 7, arranged in the center of the gantry 1, i.e. in an examination of the computed tomograph and impinges onto detector 8. As may be taken from Fig. 1, the detector 8 is arranged on the gantry 1 opposite to the radiation source 4, such that the slice plane of the fan-beam 11 intersects a row or line 15 of the detector 8. The detector 8 depicted in Fig. 1 has four detector lines 30, including the detector line 15, each comprising a plurality of detector elements. The detector lines 30 are arranged parallel to the plane of the fan-beam 11, i.e. parallel to the slice plane of the fan-beam 11 or to the fan-beam plane. The detector lines 30 are arranged parallel to each other along a column length 34.”

Please amend the paragraph beginning on page 10, line 13 as follows:

“The calculation unit 18 may furthermore be adapted for the detection of explosives in the item of baggage 7 on the basis of the read-outs from the detector 8. This may be made automatically by reconstructing scatter functions from the read-outs of the detector lines and comparing them to tables including characteristic measurement values of explosives determined during preceding measurements. In case the calculation unit 18 determines that the measurement values read-out from the detector 8 match with characteristic measurement values of an explosive, the calculation unit 18 automatically outputs 22 the determination and an activates alarm via a loudspeaker 21.”

Please amend the paragraph beginning on page 11, line 12 as follows:

“As depicted in Fig. 2, a transmission ray emitted by the x-ray source 4 (the aperture systems 5 and 9 were omitted for the sake of clarity) penetrates the item of baggage 7 and goes

through the item of baggage 7 and eventually impinges onto line 15 of the detector 8 (Fig. 2 shows a cross-sectional side view). The attenuated transmission ray is measured by detector line [[50]] 15, which, as may be seen from Fig. 2, is the first detector line of the detector 8 seen in a direction opposite to the scanning direction 32 and perpendicular to the extension of the lines 15 and 30. However, as may also be taken from Fig. 2, a portion of the fan beam 11 penetrating the item of baggage 7 is scattered in the item of baggage 7 out of the fan beam plane 11. The scatter ray is designated with reference numeral 40. A scatter angle α is defined as the angle between the scatter ray 40 and the transmission ray in the fan beam plane 11. The scatter ray 40 impinges onto a portion of the detector 8, which is referred to as scatter radiation detector and which does not measure the rays directly transmitting through the item of baggage 7. The scatter radiation detector lines may be provided with lamellae.”

Please amend the paragraph beginning on page 12, line 15 as follows:

“As may be taken from Fig. 3, a detector 50 is provided, having a plurality of detector lines 51. The detector 50 is asymmetrically arranged with respect to the fan beam 11, such that detector lines 51 in a portion 53 of the detector line, detect the direct transmission rays of the primary radiation transmitted through the object of interest or item of baggage 7, whereas detector lines 51 on a second portion 54 of the detector [[15]] 50 detect a scatter radiation scattered out of the fan plane by the item of baggage 7.”